



BHNT No: 218014 ♦ ECDPW No. NT-18-01

BNCC 2018 Phase 2 Toilet Room Renovations

Buffalo Niagara Convention Center, Convention Center Plaza, Buffalo, New York

Prepared for: Erie County

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Date Issued: Monday, June 11, 2018

PRE-BID ADDENDUM No. 1:

This addendum contains changes to the requirements of the bidding documents, technical specifications and construction drawings which have been issued to date. Such changes are to be incorporated into the construction documents and shall apply to the work with the same meaning and force as if they had been included in the original documents. Wherever this Addendum modified a portion of a paragraph of the Project Manual, or portion of any drawings, the remainder of the paragraph or drawing shall remain in force.

Project Manual:

1. **INSERT:** Specification Section **26 5100 – Lighting** into the Project Manual.

END OF ADDENDUM NO. 1.

**SECTION 26 5100
LIGHTING**

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Provide complete installation, including luminaires, standards, hangers, supports, fittings, lamps, wiring, connections and controls, as indicated in the Contract Documents. Types of luminaires in this project are LED.

1.02 DESCRIPTION OF WORK

- A. This section includes minimum requirements for the following:

- 1. Lamps
- 2. Standard Ballasts
- 3. Emergency Ballasts
- 4. Emergency Switching Module
- 5. Occupancy Sensors
- 6. Photo Sensors
- 7. Diffusers

1.03 SUBMITTALS

- A. Submit shop drawings as described in Section 260010. Luminaire shop drawings shall include photometric data for each luminaire utilizing the specified lens/louver type, lamp(s) and ballast(s). All luminaire types shall be submitted in a single complete brochure which shall be in the form of a soft cover binder with each luminaire separated by an identified index tab. Information on each luminaire shall include:

- 1. Manufacturer and Catalog Number.
- 2. Dimensioned Construction Drawing(s).
- 3. Standard Catalog "Cut" Sheet.
- 4. Photometrics.
- 5. Lens/Louver Type.
- 6. Ballast Type and Rating.
- 7. Socket Type.
- 8. Lamp Type.
- 9. Maintenance Data
- 10. Occupancy and Photo Sensors, Power packs and wiring diagrams.

1.04 QUALITY ASSURANCE

- A. Luminaires shall be standard products of manufacturers regularly engaged in the manufacture of the specific type luminaires specified and shall be the manufacturer's latest standard design that complies with specification requirements. Firms installing the luminaires shall have a minimum of five (5) years of successful installation experience on projects with interior lighting work similar to the requirements of this project.

- B. Codes and Standards
 - 1. NEC:
 - a. Shall comply with Articles 220, 410 and 510 as applicable to installation and construction.
 - 2. NEMA:
 - a. Shall comply with Standard Publication Nos. LE 1 and LE 2 as applicable to lighting equipment.
 - 3. UL:
 - a. All interior lighting luminaires and components shall be UL listed and labeled.
 - b. Comply with all applicable UL standards including UL 486A and B.
 - 4. CBM:
 - a. Fluorescent and HID ballasts shall comply with Certified Ballast Manufacturers Association standards and carry the CBM label.
 - 5. All work shall comply with applicable local code requirements of the authority having jurisdiction.
- C. Verify the availability of all luminaires proposed to be used in the execution of the work prior to submitting for approval. The discontinuance of production of any luminaire after such approval has been granted shall not relieve the Contractor from furnishing an approved luminaire of comparable quality and design at no additional cost.
- D. Luminaires shall be as specified in the "Luminaire Schedule." Luminaire types, characteristics, photometrics, finishes, etc., correspond to the first manufacturer, and associated catalog number, listed in the "Luminaire Schedule." Provide a sample luminaire from the factory for any products not listed as acceptable for approval. The Owner's Representative reserves the right to disapprove any luminaire type submitted which is not equal in quality, appearance or performance to the luminaire specified.
- E. All luminaires shall meet the Total Luminaire Efficiency (TLE) requirements of the New York State Energy Conservation Construction Code.

PART 2 - PRODUCTS

2.01 LED LUMINAIRES

- A. General:
 - 1. Manufacturers shall be a registered with the Department of Energy (DOE) as a Quality Advocate and taken the pledge to be listed on the LED lighting

- facts website.
- 2. Luminaire measurements have been standardized and are in compliance with IESNA Standard LM-79 test procedure.
- 3. LED's have been standardized and are in compliance with IESNA Standard LM-80 and demonstrate L70 life after 50,000 hours.
- 4. Luminaires and/or replacement lamps shall be either Energy Star certified or Design Lights Consortium listed where noted on the luminaire schedule to qualify for NYSERDA or Utility provider rebate incentives. Submitted luminaires not currently on the DLC qualified products list (<http://www.designlights.org/>) will be rejected.
- 5. Manufacturers shall prove color consistency across all LED's via 4 step MacAdam Ellipse.
- 6. Luminaires shall be tested at an ambient temperature of +25 degrees for a minimum of 6000hrs.
- 7. Maximum junction temperature of 80 deg. C
- 8. Minimum drive current of 350mA. Maximum drive current of 700mA.
- 9. Luminaires shall a minimum 5 year warranty.
- 10. Refer to Luminaire Schedule on drawings for complete Luminaire makes and models.

2.02 LED DRIVERS

- A. Driver:
 - 1. Driver shall be of the constant current type.
 - a. Voltage: 120/277 as noted on drawing
 - b. Constant current
 - c. Driver Current: 350mA – 700mA..
 - d. Maximum THD: 10%
 - e. Minimum Power Factor: 0.9
 - 2. Acceptable Manufacturers.
 - a. eldoLED
 - b. Philips Advance - Xitanium
 - c. Lutron Hi-Lume
 - d. Sylvania/Osram - Optotronic

2.03 BALLASTS

- A. Ballasts shall be designed for continuous operation within the luminaire provided, utilizing the lamp(s) specified, without overheating or causing any other detrimental affects.
- B. Ballasts shall be quiet in operation and of the lowest noise level available. Luminaires shall in no way amplify ballast noise, but rather shall suppress ballast noise. Ballasts considered to have objectionable hum or noise shall be replaced immediately at no additional cost.

2.04 LUMINAIRE SCHEDULE

- A. Luminaire schedule is found on the drawings.

3.01 EXAMINATION

- A. Examine areas and conditions, under which luminaires are to be installed, and substrate for supporting luminaires. Notify Architect in writing of conditions detrimental to proper completion of the work. Do not proceed with work until unsatisfactory conditions have been corrected.

3.02 COORDINATION

- A. Refer to respective reflected ceiling plan for each area. Reflected ceiling plans indicate proper luminaire location only. Coordinate the proper arrangement with all other ceiling mounted devices. Contract Documents indicate luminaire characteristics (type), quality, quantity, etc. Verify with the ceiling supplier design of actual ceiling installed in each area and coordinate compatible luminaire flange.
- B. General
 - 1. Install interior luminaires at locations and heights as indicated, in accordance with luminaire manufacturer's written instructions, applicable requirements of NEC, NECA's 'Standard of Installation', NEMA standards, and with recognized industry practices.
 - 2. Provide luminaires and/or luminaire outlet boxes with hangers to properly support luminaire weight. Submit design of hangers, method of fastening, other than indicated or specified herein, for review by Engineer.
 - 3. Make installation such that the luminaire is free of finger marks, flaws, scratches, dents or other imperfections.
 - 4. Arrangement
 - a. Align edges of luminaires with walls or other building elements. Where indicated by dimensions or indicated on Drawings, maintain indicated arrangement.
 - b. For wall to wall installed luminaires, field measure length required after completion of the wall construction and prior to ordering the luminaires. Fabricate in largest lengths allowable.
 - 5. Recessed Mounting
 - a. Verify ceiling construction and material prior to ordering luminaires. Provide plaster frames for plaster ceilings and flanged frames for drywall ceiling. Provide necessary mounting hardware and accessories to adapt luminaire to ceiling construction. Provide gaskets, trims, flanges, etc. as required to prevent light leaks around trim. Where installing 'lay-in' type luminaires, each Luminaire shall be supported completely independent of the ceiling system by way of 12-AWG galvanized steel support wires. Support wires shall be attached from all four corners of the Luminaire housing to the building structure. Each support shall be capable of supporting 100 pounds. Provide saddle hangers or tie bars attached to runners or between crossbars of ceiling systems as a safety measure. Provide mounting splines or other positive means of maintaining alignment and rigidity.

6. Stem Mounting
 - a. Use self-aligning hangers in canopies for hanging luminaires true to vertical. Do not deface ceiling or walls. Locate hangers at intersections of joints or at centers of blocks in rooms with patterned type ceiling materials such as acoustic tile. Use hangers capable of supporting four times luminaire weight. Align continuous rows of luminaires maintaining luminaires level without rotation about the longitudinal axis. Rigidly support outlet box independent of ceiling system from building structure. Where obstructions prevent direct support of outlet, provide offset or trapeze hangers of outlet box. Stem shall be supported directly from building structure on centers as called for by the manufacturer. There shall be a minimum of two stems per individual four foot luminaire, and three stems per individual eight foot luminaire for steel luminaires. Extruded aluminum luminaires shall have hangers as called for by the manufacturer.
 - b. Provide brackets from the manufacturer of the same finish and material as the luminaires to present a seamless continuous row mounting appearance. Provide continuous row mounting brackets between all adjoining luminaires.
7. Surface Ceiling/Wall Mounting
 - a. Mount surface luminaires tight to surface without distorting surface. Space luminaires in continuous rows to correspond to ceiling joint intersections. Continuous row luminaires may be fed by a single outlet where luminaires contain approved wireways and suitable wiring is used. Provide hangers for each luminaire, each rated to support four times the luminaire weight. Provide offset or trapeze hangers where required. Supports shall be provided on a maximum of 4 foot centers with a minimum of two hangers per individual four foot luminaire and three hangers per individual eight foot luminaire. Hangers shall be supported from the building structure and independently from ceiling system or other building services.
 - b. Fasten luminaires securely to structural supports.

3.03 BALLASTS

- A. Whenever possible, provide two-lamp ballasts for luminaires with two fluorescent lamps or multiples of two lamps. Unless otherwise noted conform to the following
 1. Replace any ballast which produces an excessive noise (hum) level.
- B. Provide separate non-switched conductor from line side of area lighting circuit to each emergency ballast and emergency switching modules sensing input. Refer to manufacturers wiring diagram. Connect all emergency ballasts and emergency switching modules to allow switching unless luminaire is specifically shown to be used as a night light.

3.04 LAMPS

- A. Provide lamps in all luminaires.

- B. Replace any lamp whose color is determined to be unsatisfactory. Replace all HID lamps which are found to have failed during the 12 month warranty period.
- C. All lamps shall be new and unused. If permanent lighting system is used for temporary construction lighting, lamps shall be replaced upon turn over to Owner.
- D. Furnish stock or replacement lamps amounting to 15%, but not less than 4 lamps in each case, of each type and size lamp used in each type luminaire. Deliver replacement stock as directed to Owner's storage space.

3.05 OCCUPANCY SENSORS

- A. Provide all necessary mounting brackets, wiring, low voltage transformers and control relays required to provide control of areas indicated.
- B. Provide initial time delay and sensitivity settings per owner's representative.

3.06 DELIVERY, STORAGE, AND HANDLING

- A. Luminaires and equipment shall be delivered with UL and manufacturer's labels intact and legible in factory fabricated containers.
- B. Luminaires and accessories shall be stored in protected dry locations in their original unbroken package or container. Luminaires shall be protected from dust and dampness both before and after installation. Luminaires shall be protected from paint and cleaning solvents during all phases of construction.
- C. Handle interior lighting luminaires carefully to prevent damage, breaking, and scoring of finishes. Do not install damaged luminaires or components; replace with new.

3.07 SEQUENCING AND SCHEDULING

- A. Coordinate with other work including ceiling type, wires/cables, electrical boxes, fittings, and raceways, to properly interface installation of interior luminaires with other trades.

3.08 REUSE AND REPAIR OF EXISTING LUMINAIRES

- A. Reuse existing luminaires only where called for. Perform the following work, as required, to upgrade existing luminaire. Replace faulty, leaking, or noisy ballast. Replace broken, damaged, worn, or faulted lamp sockets. Provide new luminaire wire. Provide new acrylic lens system to match existing, where existing is broken. Relamp luminaires. Completely damp clean lens and interior of luminaires.
- B. If ballasts have leaked, remove material deposited in luminaire. Assume material was PCB contamination, or test samples to show material is not PCB and submit a report. Dispose of material as required by EPA, including clean-up materials used. Dispose of ballast which do not have non PCB label in PCB containers and have containers taken to EPA approved incinerators. Follow all EPA regulations for transporting material.
- C. New luminaires may be provided to replace existing luminaires scheduled to remain or be reused, subject to shop drawing approval.

3.09 FINAL CLEANING

- A. Prior to acceptance, damp clean diffusers, glassware, trim, reflectors, lamps, louvers, lens and similar objects of all luminaires. Remove all dirt, corrosion, foreign material, finger marks, blemishes. Replace all burned out lamps and failed components.

END OF SECTION